

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

## Certificate of Analysis

Date of Testing: 2022-12-12 13:05:37  
 Date of Next Testing: 2024-12-11 13:05:37  
 Product Name: **D-(+)-Gluconic acid  $\delta$ -lactone**  
 CAS Number: 90-80-2  
 Specifications & Purity: 99%  
 Lot #: L2202088  
 SKU #: **G106879**  
**Analysis: 147340**  
 Storage Temperature: Argon charged

Parameter	Limit Values	Result
Heavy metal (as Pb)	0-20 (ppm)	10.00 ppm
Reducing Substances	0-0.5 (%)	0.30 %
Pb measure	0-10 (ppm)	5.00 ppm
Ash	0-0.1 (%)	0.03 %
Purity(Titration by HCl)	98.5-101.5 (%)	99.60 %
Melting point	151-158 (°C)	151.10000 °C
Purity(HPLC)	98-100 (%)	100.00000 %
Specific Rotation $[\alpha]_{20}^D(c=10 \text{ in } H_2O)$	60-67 (°)	60.10°
Appearance (G106879)	White to Off-White Powder or Crystals	White to Off-White Powder or Crystals
Proton NMR spectrum	Conforms to structure	Conforms to Structure
Solubility in H <sub>2</sub> O , Colorless to Very Faint Yellow ,Clear,100 mg/mL	pass	Pass



John Su  
QA & QC Manager